# Marked example 2

Paper 2 style · Graphic display calculator

## 2 5 marks SL 4.9 · 4.12 ●●○ Typical

The masses of bags of flour are normally distributed with mean 500 g and standard deviation 12 g.

**(a)** Find the mass exceeded by 5 % of the bags. **[2]**

**(b)** Find the value of $k$ such that $P(X < k) = 0.2$. **[1]**

**(c)** Find the standardised value of a mass of 530 g. **[2]**

**MARKSCHEME (a)**

$P(X < m) = 0.95$ **(M1)**

$m = 520$ g $(519.738\ldots)$ **A1**

**Total 2 marks**

**Note** Area to the left: $1 - 0.05$.

**MARKSCHEME (b)**

$k = 490$ g $(489.900\ldots)$ **A1**

**Total 1 mark**

**MARKSCHEME (c)**

$$z = \frac{530 - 500}{12}$$ **(M1)**

$= 2.5$ **A1**

**Total 2 marks**



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